

# The Effect of Knowledge Management Implementation on the Organizational Performance through Learning Organization at PT Inalum (Persero)

Aghnia Pangeran Siregar<sup>1</sup>, Nazaruddin<sup>2</sup>, Rulianda Purnomo Wibowo<sup>2</sup>

<sup>1,2</sup>Master of Management Study Program on Postgraduate School of University of Sumatera Utara

Corresponding Author: Aghnia Pangeran Siregar

## ABSTRACT

PT Indonesia Asahan Aluminium (Persero) or Inalum is a State-Owned Enterprise (BUMN) which is a pioneer company and the only one in Indonesia engaged in the production of Primary Aluminium (ingots, billets and alloys). Currently, Inalum is faced with problems with 42.39% of employees having period of employment less than 5 years in 2018. Conditions of productivity performance also declined from 2014 which was 135.35 tons of aluminium per employee per year to 117.67 tons of aluminium per employee per year in 2018. This becomes basic policy to implement knowledge management and learning organizations within the company. The purpose of this research is to find out and analyze the effect of knowledge management with the focus of tacit knowledge on organizational performance through learning organizations. The independent variable in this study is tacit knowledge management, the dependent variable is organizational performance, and the intervening variable is the learning organization. Data collection using a questionnaire with a total sample of 100 respondents. This research uses SEM analysis method which has previously been tested for validity and reliability. The results of this study indicate that tacit knowledge management has a positive and significant effect on organizational performance, tacit knowledge management has a positive and significant effect on learning organizations, learning organization has a positive and significant effect on organizational performance and tacit knowledge management has a positive

and significant effect on organizational performance through learning organizations.

**Keywords:** Knowledge Management, Tacit Knowledge Management, Learning Organization, and Organizational Performance

## BACKGROUND

PT Indonesia Asahan Aluminium (Persero) or Inalum is the first and only company in Indonesia engaged in primary aluminium production which consists of aluminium ingots, billets and alloys. Based on Inalum's Annual Report data, 2014-2018, Inalum's aluminium production is in a declining condition from 2014 to 2018. This condition is influenced by many things such as market conditions, commodity and raw material prices, availability of electrical energy, equipment conditions and human resources. This also caused Inalum's net profit to decline from 2014 to 2018. This condition was also influenced by many things, especially market conditions, commodity prices and raw materials.

Until 2018, Inalum still controlled the domestic aluminium ingot production market share of 76%, while the rest were imported products. Inalum's market share achievement in 2018 was influenced, among other things, by a decrease in the number of imports of aluminium ingots. The majority of Inalum's aluminium ingot market share has taken place in the last four years, starting in 2014 which reached 74%. This is

a realization of the company's policy of prioritizing the domestic market over exports.

In addition, from the internal side of the organization, in the last 5 years, Inalum has experienced a significant change in employee demographics. This is related to the retirement period of the first generation of Inalum who started working from 1980 to 1989 and the start of large recruitment of new employees in 2014 to 2018. When compared with the increase in the percentage of employees with less than 5 years of service, general employee productivity from 2014 to 2018 appears to have decreased.



Figure 1. Inalum Employee Training Hours and Costs

Inalum to improve employee knowledge and skills as well as productivity by increasing the number of hours (man-hours) and training costs (Billion Rupiah) from 2014 to 2018.

This phenomenon has attracted the attention of management in this case the Directorate of Human Resources (HR) to accelerate the increase in productivity to support organizational performance such as profitability, production growth rate and market share. In addition, the complexity of operating methods and production processes is also a consideration for management, in this case the HR Directorate, to implement knowledge management and also utilize learning organizations within the company.

Learning organization will occur if the organization continuously improves the knowledge of its members to foster the

creation of something new (Senge, 1990). With that, all organizational resources will continue to be empowered in the context of organizational growth (Mahayana, et al. 2008). Organizations that implement learning organizations will continue to improve the tacit knowledge that exists in each employee which is then managed into organizational knowledge through knowledge management. According to Sangkala (2007) tacit knowledge is knowledge that is owned by a person and is very difficult to formalize, communicate, or share with others. The understanding that is inherent in the individual's knowledge can be categorized as intuition and conjecture and continuously resides and is rooted in a person's actions and experiences, including ideals, values and emotions.

Tacit knowledge that is managed properly through knowledge management will affect the success of a learning organization, as research by Salleh (2014) which concludes that the integration of learning organizations and tacit knowledge can increase the percentage of skilled workers or experts, increase individual interest in learning new skills, increase innovation, research products and patents and participate in process improvement. Research conducted by Ngah & Jusoff (2009) shows that the sharing of tacit knowledge is very influential on the learning organization so as to improve quality to create new products and services.

## Knowledge Management

Farago and Skyrme (2003) define knowledge management as a process that can help organizations find, select, disseminate, and transfer important and necessary information for various activities such as problem solving, dynamic learning processes, and strategic planning and decision making. In general, knowledge management is a process that coordinates the use of information, knowledge and experience.

According to Frappaolo & Toms (2000), there are five functions of

knowledge management applications in an organization, namely as follows:

1. Intermediation, namely the role of intermediary in the transfer of knowledge between providers and knowledge seekers. This role matches the needs of knowledge seekers with knowledge sources optimally. Thus, intermediation ensures a more efficient transfer of knowledge.
2. Externalization, namely the transfer of knowledge from the mind of the owner to an external repository, in the most efficient way possible. Externalization is thus providing knowledge sharing.
3. Internalization, is the retrieval (extraction) of knowledge from external storage, and filtering that knowledge to be made available to relevant seekers. Knowledge must be presented to the user in a form that is more suitable for his understanding. Thus, this function includes interpretation and/or reformatting of knowledge presentation.
4. Cognition, is the function of a system to make decisions based on the availability of knowledge. Cognition is the application of knowledge that has changed through the three previous functions.
5. Measurement, namely knowledge management activities to measure, map and qualify corporate knowledge and performance of knowledge management solutions. This function supports four other functions, to manage the knowledge itself.

Companies that implement knowledge management can take one or several functions from the application of knowledge management. These functions will assist management and employees in carrying out company activities properly.

### **Tacit Knowledge Management**

According to Sangkala (2007) tacit knowledge is knowledge that is owned by a person and is very difficult to be formalized, difficult to communicate, or share with others. The understanding inherent in the

individual's knowledge is still subjective. The knowledge possessed by the individual can still be categorized as intuition and conjecture. This tacit knowledge resides and is rooted in a person's actions and experiences, including his ideals, values, and emotions. Nonaka and Takeuchi (1995) say that although it is not easy, tacit knowledge can be articulated and converted into explicit knowledge in a process known as the SECI spiral, which consists of Socialization, Externalization, Combination, and Internalization. The more frequent the knowledge conversion process, the deeper each individual's understanding will be.

### **Learning Organization**

Learning organization is defined by Watkins & Marsick (1996) as something in which learning and work are integrated continuously and systematically to support continuous improvement at individual, group and organizational levels. In other words, learning takes place in individuals, teams and organizations and even the communities in which organizations interact.

Learning Organization is systematically defined by Sangkala (2007) as an organization that learns with all its might, collectively and constantly changing itself to be better at collecting, managing, and using knowledge for the company's success. Sangkala (2007) also explains that learning organization is manifested through three types of learners, namely individual, group, and organizational. Learning is a part and must occur both in human, technology, knowledge, and organizational sub-systems. If the learning process in the Learning Organization occurs, changes in perceptions, behavior, beliefs, mentality, strategies, policies, and procedures both related to humans and organizations will occur.

Parmono (2001) explains that the core of a learning organization lies in the organization's ability to always learn from changes that occur. All actors involved in the organization are required to always

make improvements and adapt to their environment. The role of the organization is no longer focused on external issues of the organization, but is more emphasized on how the internal organization is able to learn in the midst of existing competition.

Muthuveloo, et.al (2017) in their research got results showing that there is a positive and significant relationship between Tacit Knowledge Management and Organizational Performance. Of the 4 dimensions tested (Socialization, Externalization, Combination, and Internalization) only 2 dimensions, namely socialization and internalization, have a

significant effect. Ngah & Jusoff (2009) in their research found that the sharing of tacit knowledge greatly affects organizational learning. Companies that manage knowledge well will improve organizational performance. Especially the improvement of new products and services.

### Conceptual framework

The conceptual framework in this study describes organizational performance that is influenced by tacit-focused knowledge management practices through a learning organization.

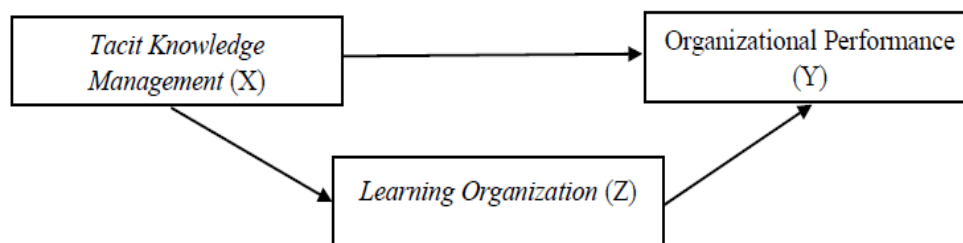


Figure 2. Conceptual Framework

### Hypothesis

1. There is a significant effect of tacit knowledge management on organizational performance.
2. There is a significant influence of learning organization on organizational performance
3. There is a significant effect of tacit knowledge management on organizational performance through a learning organization.

### RESEARCH METHODS

The type of research used in this research is descriptive-correlational research. The population in this study were employees of PT Inalum (Persero). The total number of employees is 1953 people as of December 31, 2019. In sampling, according to Gay and Diehl (1992), correlational descriptive research has at least 30 subjects or samples. Then according to Hair et al (1998) the ratio between the number of subjects/sample and the number of independent variables in multivariate analysis is recommended around 15 to 20

samples per independent variable. So for this study a minimum of 40 samples were taken because there were 2 independent variables. In this study, the validity of the questionnaire was tested using the Pearson correlation method to calculate the correlation between the data in each statement and the total score using the SMARTPLS program.

### RESULTS AND DISCUSSION

#### Structural Model Testing (Inner Model)

Table 1. Adjusted R-Square Value

Variable	R-square
Learning Organization	0.802
Organization Performance	0.696

Table 2 shows the Adjusted R-square value for the learning organization variable, which is 0.802 for the organizational performance variable, which is 0.696. These results indicate that 80.2 percent of the learning organization variable (Z) can be influenced by the tacit knowledge variable (X), 69.6 percent of the organizational performance variable (Y) is influenced by the tacit knowledge

management variable (X). Meanwhile, simultaneously, tacit knowledge management and learning organization have a positive and significant effect on organizational performance.

### Hypothesis test

Testing the hypothesis about the relationship between variables used in this study is seen from the magnitude of the t-statistics and p-value which is the basis for determining the significance of the relationship between exogenous and

endogenous latent variables. This study uses a significance level of 5 percent because the type of data processed is primary data so it is considered not to have high accuracy. If the t-statistics value  $> 1.66$  and p-value  $< 0.05$ , then the research results are said to be significant at 5 percent alpha so that the hypothesis is accepted at 5 percent alpha. The value of t-Statistics and p-value of this study on SmartPLS 3 can be seen in the output Path Coefficients which can be seen in Table 2.

**Table 2. Results of Output Path Coefficients and P Values**

	Original Sample (O)	Sample Mean (M)	T (Statistic)	P Values
Tacit knowledge on Learning Organization	0.897	0.896	30.467	0.000
Tacit knowledge on Organizational Performance	0.373	0.393	2.394	0.017
Learning Organization on Organizational Performance	0.487	0.468	2.992	0.003
Tacit knowledge on Organizational Performance through Learning Organization	0,437	0,417	3,060	0,002

### Hypothesis 1: There is a significant effect of tacit knowledge management on organizational performance.

Based on the test results, it is known that the beta parameter coefficient on the original sample mean between tacit knowledge management and organizational performance has a positive effect of 0.373 each with a t-statistics value of 2.394 ( $> 1.6$ ) and a p-value of 0.017 ( $p < 0.05$ ), meaning that it is significant at 5 percent alpha. Thus the first hypothesis (H1) is accepted, so it can be concluded that tacit knowledge management has a positive and significant effect on organizational performance at a significance level of 5 percent.

Regarding the management of tacit knowledge, companies must create awareness and cultivate attention regarding the importance of sharing knowledge by carrying out brainstorming, including how to change employee behavior in order to increase support for personal knowledge and the ability to convey better information.

The higher the level of tacit knowledge, it will improve organizational performance. This suggests that an individual's professional performance resulting in good personal relationships can lead to a significantly greater effect on willingness to share tacit knowledge.

### Hypothesis 2: There is a significant influence of learning organization on organizational performance

Based on the test results, it is known that the beta parameter coefficient on the original sample mean between learning organization and organizational performance has a positive effect of 0.487 each with a t-statistics value of 2.992 ( $> 1.96$ ) and a p-value of 0.003 ( $p < 0.05$ ), meaning that it is significant at 5 percent alpha. Thus the second hypothesis (H2) is accepted, so it can be concluded that learning organization has a positive and significant effect on organizational performance at a significance level of 5 percent.

This shows that companies that focus on managing tacit knowledge and sharing it within the organization will improve organizational performance. Each individual competency can strengthen the group's emotional intelligence so as to improve group performance, and embedding and sharing tacit knowledge activities can increase the organization's capacity to learn.

The understanding inherent in the individual's knowledge is still subjective. The knowledge possessed by the individual can still be categorized as intuition and conjecture. This tacit knowledge resides and

is rooted in a person's actions and experiences, including his ideals, values, and emotions.

**Hypothesis 3: There is a significant effect of tacit knowledge management on organizational performance through a learning organization.**

Based on the test results, it is known that the beta parameter coefficient on the original sample mean between tacit knowledge management on organizational performance through learning organization has a positive effect of 0.437 each with a t-statistics value of 3.060 ( $> 1.96$ ) and a p-value of 0.002 ( $p < 0.05$ ), it means that it is significant at 5 percent alpha. Thus the third hypothesis (H3) is accepted, so it can be concluded that tacit knowledge management has a positive and significant effect on organizational performance through organizational learning.

**CONCLUSION**

1. Tacit Knowledge Management has a positive and significant effect on Organizational Performance.
2. Tacit Knowledge Management has a positive and significant effect on Learning Organizations.
3. Learning Organization has a positive and significant effect on Organizational Performance.
4. Simultaneously, Tacit Knowledge Management and Learning Organization have a positive and significant effect on Organizational Performance.
5. Tacit Knowledge Management has a positive and significant effect on organizational performance through Learning Organizations.

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